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CAO, PHUONG THAO	
ART UNIT	**PAPER NUMBER**
2164	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,614	ZIEMANN ET AL.	
	Examiner	Art Unit	
	Phuong-Thao Cao	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11 and 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to Amendment filed on 07/05/2007.

2. Claims 1 and 11 have been amended, and claims 2 and 12 were previously cancelled. Currently, claims 1, 3-11 and 13-20 are pending.

Response to Amendment

3. Amendments to claims 1 and 11 are effective to overcome the 101 and 112, 2nd paragraph rejection in the previous office action. Therefore, the 101 and 112, 2nd paragraph rejections have been withdrawn.

Response to Arguments

4. Applicant's argument directed to the 112, 1st paragraph rejection is effective to overcome the 112, 1st paragraph rejection in the previous office action. Therefore, the 112, 1st paragraph rejection has been withdrawn.

5. Applicant's arguments filed 07/05/2007 regarding the prior art rejection have been fully considered but they are not persuasive.

Regarding Applicant's argument that Jagadish et al. does not teach or suggest of an identified tree, Examiner disagrees.

Jagadish et al. discloses a selection operation on page 278, column 2 which takes a collection of trees and a pattern tree as input and return the relevant witness tree(s) wherein the relevant tree(s) identified by matching the pattern tree to the collection of trees can be interpreted as identified tree. A witness tree is a pattern tree with values set at every node [page 278, column 2, paragraph 3], which can be used in another selection operation on a collection of trees to identify its relevant witness tree. In other words, in one selection operation, a pattern tree can be interpreted as a mask which applies to collection of input trees to generate query trees (i.e., witness tree), and in another selection operation, since a witness tree can serve as a pattern tree, the pattern tree can be interpreted as a query tree which applies to collection of trees to identify trees consistent with the query tree.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3-11 and 13-20 (effective filing date 9/19/2003) are rejected under 35 U.S.C. 103(a) as being unpatentable over Jagadish et al. ("Timber: A Native XML Database",

2002) in view of Lindblad et al. (Publication No US 2004/0060006, effective filing date 06/13/2003).

As to claim 1, Jagadish et al. teaches:

"A method for updating a collection of tree data structures in a computer readable database with input data" (see Jagadish et al., Abstract and [page 275, column 1, paragraph 3] wherein XML document or XML database including a collection of subtrees [Fig. 1] and XML queries allow the updating data in the databases), the method comprising:

"generating a query tree having a tree data structure by applying a mask to the input data to generate the query tree, wherein the mask and the input data each correspond to a tree data structure" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 281, column 1, paragraph 1] wherein pattern tree is interpreted as a mask, and witness tree is interpreted as query tree; note that witness tree is a special pattern tree [page 278, column 2, paragraph 3);

"storing the query tree in a computer-readable memory" (see Jagadish et al., [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later);

"applying the query tree to the collection of tree data structures in the database to identify an identified tree consistent with the query tree" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 278, column 2] for an selection operation which takes a collection of trees and a pattern tree as input and return the relevant witness tree(s) wherein the relevant tree(s) identified by matching the pattern tree to the collection of trees can be interpreted as Applicant's

"identified tree". A witness tree is a pattern tree, which can be used in a selection operation on a collection of trees to identify its relevant witness tree).

Jagadish et al does not teach:

"deleting the identified tree from the database"; and

"replacing the deleted identified tree with the input data in the database".

Lindblad et al. teaches:

"deleting the identified tree from the database" (see Lindblad et al., [0055] and [0178] wherein the subtree S(n) is equivalent to Applicant's "identified tree"); and

"replacing the deleted identified tree with the input data in the database" (see Lindblad et al., [0055] wherein the subtree S(n') is equivalent to Applicant's "input data").

It would have obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jagadish et al. by the teaching of Lindblad et al., since both Jagadish et al. and Lindblad et al. pursue in the field of XML database system and adding the features of deleting the identified tree from the database and adding the input data to the database provides an obvious and effective way to update data in the database.

As to claim 3, this claim is rejected based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"receiving a set of input data comprising a plurality of input data including the unit of input data, each of the set of input data corresponding to a tree data structure" (see Jagadish et al., [page 277, column 2, paragraph 5]);

"generating the mask by identifying a common characteristic among the set of input data (see Jagadish et al., [page 278] wherein manipulated trees is equivalent to Applicant's "set of input data"; and pattern tree is equivalent to Applicant's "mask");

"storing the mask in the computer-readable memory" (see Jagadish et al., [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later wherein pattern tree is equivalent to Applicant's "mask"); and

"adding the set of input data to the database" (see Jagadish et al., [page 287, column 1, paragraph 3] for insertion of elements).

As to claim 4, this claim is rejected based on arguments given above for rejected claim 3 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the common characteristic among the set of input data comprises a matching node in each of the input data, and wherein each matching node has a same value and a same relative position as every other matching node" (see Jagadish et al., [page 278, column 1, paragraph 3-4] and [page 278, column 2, paragraph 5] wherein pattern identifies the common characteristic of a set of trees, as illustrated in Applicant's claim language).

As to claim 5, this claim is rejected based on arguments given above for rejected claim 4 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein generating the mask generates the mask to have an extending node having the same relative position as each of the matching nodes" (see Jagadish et al., [page 278, column 1, paragraph 1] and Fig. 3 wherein pattern tree is equivalent to Applicant's "mask", and node connected to containment edges is equivalent to Applicant's "extending node"),

"wherein the query tree comprises a query node having the same relative position as each of the matching nodes and the extending node" (see Jagadish et al., [page 278, column 1, paragraph 1] and Fig. 3 wherein pattern tree is equivalent to Applicant's "mask", and node connected to containment edges is equivalent to Applicant's "query node"), and

"wherein, when the mask is applied to the unit of input data to generate the query tree, the extending node propagates the values of unit of input data's matching node to the query node" (see Jagadish et al., [page 280, column 2, paragraph 3]).

As to claim 6, this claim is rejected based on arguments given above for rejected claim 5 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the identified tree comprises an identified node having the value and the same relative position as the query node" (see Jagadish et al., [page 278, column 2, paragraph 1] and Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 7, this claim is rejected based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the input data comprises a data node having a value" (see Jagadish et al., [page 278, column 2, paragraph 1]),

"wherein the mask has an extending node at the same relative position as the data node" (see Jagadish et al., Fig. 3 and Fig. 5),

"wherein the query tree comprises a query node at the same relative position as the data node and the extending node" (see Jagadish et al., [page 278, column 2, paragraph 4] wherein pattern tree is equivalent to Applicant's "query tree"),

"wherein, when the mask is applied to the input data to generate the query tree, the extending node propagates the values of unit of input data's matching node to the query node" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 280, column 2, paragraph 3] wherein pattern tree created from the input data of the query is equivalent to Applicant's "query tree"),

"wherein the identified tree comprises an identified node having the same relative position as the query node and having the value of the query node" (see Jagadish et al., page 278, Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 8, this claim is rejected based on arguments given above for rejected claim 3 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"applying the mask to a second set of input data to generate a plurality of query trees each corresponding to a tree data structure, and each of the input data of the second set of input data

corresponding to a tree data structure" (see Jagadish et al., [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees);

"storing the plurality of query trees in a computer-readable memory" (see Jagadish et al., [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later wherein pattern tree is equivalent to Applicant's "query tree");

"applying the plurality of query trees to the collection of tree data structures in the database to identify a plurality of identified trees consistent with at least one of the plurality of query trees" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 278, column 2, paragraph 1] wherein pattern tree is equivalent to Applicant's "query tree", and witness tree is equivalent to Applicant's "identified tree"; also see [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees);

"deleting the plurality of identified tree from the database" (see Lindblad et al., [0055] and [0178] wherein the subtree S(n) is equivalent to Applicant's "identified tree"); and

"adding the second set of input data to the database" (see Lindblad et al., [0055] wherein the subtree S(n') is equivalent to Applicant's "input data").

As to claim 9, this claim is rejected based on arguments given above for rejected claim 8 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

""wherein each of the input data of the second set of input data comprises a data node" (see Jagadish et al., page 278, column 2, paragraph 1 and 4] for input tree of interest),

"wherein each data node have (1) a value, and (2) a same relative position as every other data node" (see Jagadish et al., page 278, Fig. 7 wherein pattern implies what is described in Applicant's claim language),

"wherein the mask has an extending node at the same relative position as each of the data nodes" (see Jagadish et al., Fig. 3 and Fig. 5),

"wherein each of the plurality of the query trees comprises a query node at the same relative position as the data node and the extending node" (see Jagadish et al., [page 278, column 2, paragraph 4] wherein pattern trees is equivalent to Applicant's "query tree"),

"wherein, when the mask is applied to the second set of input data to generate the plurality of the query trees, the extending node propagates the values of each of the data nodes to each of the respective query nodes" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 280, column 2, paragraph 3] wherein pattern tree created from the input data of the query is equivalent to Applicant's "query tree"; also see [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees),

"wherein the query nodes each have a different value" (see Jagadish et al., page 278, Fig. 3 wherein each node in the pattern tree P has different value), and

"wherein the plurality of identified tree each comprise an identified node having the same relative position as each of the query nodes and having a same value of the query nodes" (see Jagadish et al., page 278, Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 10, this claim is rejected based on arguments given above for rejected claim 2 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the collection of tree data structures comprise heterogeneous data" (see Jagadish et al., Fig. 1 for collection of subtrees comprising heterogeneous data as illustrated in Applicant's claim language).

As to claim 11, Jagadish et al. teach:

"A system for updating a collection of tree data structures" (see Jagadish et al., Abstract and [page 275, column 1, paragraph 3] wherein XML document or XML database including a collection of subtrees [Fig. 1] and XML queries allow the updating data in the databases), the system comprising:

"a database component operative to maintain a database comprising the collection of tree data structures" (see Jagadish et al., Abstract and [page 274, column 2, paragraph 2]);

"a memory component" (see Jagadish et al., Abstract and [page 276, column 1]);

"an input component" (see Jagadish et al., [page 276, column 1, paragraph 2]); and

"a processing component communicatively connected to the database component, the memory component, and the input component" (see Jagadish et al., [page 277, column 1]), the processing component programmed to perform actions comprising:

"receiving input data from the input component, the input data corresponding to a data structure" (see Jagadish et al., [page 276, column 1, paragraph 2]);

"generating a query tree having a tree data structure by applying a mask to the input data to generate the query tree, wherein the mask and the input data each correspond to a tree data structure" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 281, column 1, paragraph 1] wherein pattern tree is interpreted as a mask, and witness tree is interpreted as query tree; note that witness tree is a special pattern tree [page 278, column 2, paragraph 3);

"storing the query tree in a computer-readable memory" (see [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later wherein pattern tree is equivalent to Applicant's "query tree");

"applying the query tree to the collection of tree data structures in the database to identify an identified tree consistent with the query tree" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 278, column 2] for an selection operation which takes a collection of trees and a pattern tree as input and return the relevant witness tree(s) wherein the relevant tree(s) identified by matching the pattern tree to the collection of trees can be interpreted as Applicant's "identified tree". A witness tree is a pattern tree, which can be used in a selection operation on a collection of trees to identify its relevant witness tree).

Jagadish et al does not teach:

"instructing the database component to delete the identified tree from the database"; and

"instructing the database component to replace the deleted identified tree with the input data in the database".

Lindblad et al. teaches:

"instructing the database component to delete the identified tree from the database" (see Lindblad et al., [0055] and [0178] wherein the subtree S(n) is equivalent to Applicant's "identified tree"); and

"instructing the database component to replace the deleted identified tree with the input data in the database" (see Lindblad et al., [0055] wherein the subtree S(n') is equivalent to Applicant's "input data").

It would have obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jagadish et al. by the teaching of Lindblad et al., since both Jagadish et al. and Lindblad et al. pursue in the field of XML database system and adding the features of deleting the identified tree from the database and adding the input data to the database provides an obvious and effective way to updating data in the database.

As to claim 13, this claim is rejected based on arguments given above for rejected claim 11 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"receiving a set of input data comprising a plurality of input data including the unit of input data, each of the set of input data corresponding to a tree data structure" (see Jagadish et al., [page 277, column 2, paragraph 5]);

"generating the mask by identifying a common characteristic among the set of input data" (see Jagadish et al., [page 278] wherein manipulated trees is equivalent to Applicant's "set of input data"; and pattern tree is equivalent to Applicant's "mask");

"storing the mask in the computer-readable memory" (see Jagadish et al., [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later wherein pattern tree is equivalent to Applicant's "mask"); and

"instructing the database component to add the set of input data to the database" (see Jagadish et al., [page 276, column 1, paragraph 2] and [page 287, column 1, paragraph 3] for insertion of elements).

As to claim 14, this claim is rejected based on arguments given above for rejected claim 13 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the common characteristic among the set of input data comprises a matching node in each of the input data, and wherein each matching node has a same value and a same relative position as every other matching node" (see Jagadish et al., [page 278, column 1, paragraph 3-4] and [page 278, column 2, paragraph 5] wherein pattern identifies the common characteristic of a set of trees, as illustrated in Applicant's claim language).

As to claim 15, this claim is rejected based on arguments given above for rejected claim 14 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein generating the mask generates the mask to have an extending node having the same relative position as each of the matching nodes" (see Jagadish et al., [page 278, column 1,

paragraph 1] and Fig. 3 wherein pattern tree is equivalent to Applicant's "mask", and node connected to containment edges is equivalent to Applicant's "extending node"),

"wherein the query tree comprises a query node having the same relative position as each of the matching nodes and the extending node" (see Jagadish et al., [page 278, column 1, paragraph 1] and Fig. 3 wherein pattern tree is equivalent to Applicant's "mask", and node connected to containment edges is equivalent to Applicant's "query node"), and

"wherein, when the mask is applied to the unit of input data to generate the query tree, the extending node propagates the values of unit of input data's matching node to the query node" (see Jagadish et al., [page 280, column 2, paragraph 3]).

As to claim 16, this claim is rejected based on arguments given above for rejected claim 15 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the identified tree comprises an identified node having the value and the same relative position as the query node" (see Jagadish et al., [page 278, column 2, paragraph 1] and Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 17, this claim is rejected based on arguments given above for rejected claim 11 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the input data comprises a data node having a value" (see Jagadish et al., [page 278, column 2, paragraph 1]),

"wherein the mask has an extending node at the same relative position as the data node" (see Jagadish et al., Fig. 3 and Fig. 5),

"wherein the query tree comprises a query node at the same relative position as the data node and the extending node" (see Jagadish et al., [page 278, column 2, paragraph 4] wherein pattern tree is equivalent to Applicant's "query tree"),

"wherein, when the mask is applied to the input data to generate the query tree, the extending node propagates the values of unit of input data's matching node to the query node" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 280, column 2, paragraph 3] wherein pattern tree created from the input data of the query is equivalent to Applicant's "query tree"),

"wherein the identified tree comprises an identified node having the same relative position as the query node and having the value of the query node" (see Jagadish et al., page 278, Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 18, this claim is rejected based on arguments given above for rejected claim 13 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"applying the mask to a second set of input data to generate a plurality of query trees each corresponding to a tree data structure, and each of the input data of the second set of input data

corresponding to a tree data structure" (see Jagadish et al., [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees);

"storing the plurality of query trees in a computer-readable memory" (see Jagadish et al., [page 282, column 1, paragraph 1] wherein the disclosure of pattern tree reuse indicates that the pattern tree must be stored in some memory for reusing later wherein pattern tree is equivalent to Applicant's "query tree");

"applying the plurality of query trees to the collection of tree data structures in the database to identify a plurality of identified trees consistent with at least one of the plurality of query trees" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 278, column 2, paragraph 1] wherein pattern tree is equivalent to Applicant's "query tree", and witness tree is equivalent to Applicant's "identified tree"; also see [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees);

"instructing the database component to delete the plurality of identified tree from the database" (see Lindblad et al., [0055] and [0178] wherein the subtree S(n) is equivalent to Applicant's "identified tree"); and

"instructing the database component to add the second set of input data to the database" (see Lindblad et al., [0055] wherein the subtree S(n') is equivalent to Applicant's "input data").

As to claim 19, this claim is rejected based on arguments given above for rejected claim 18 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein each of the input data of the second set of input data comprises a data node" (see Jagadish et al., [page 278, column 2, paragraph 1 and 4] for input tree of interest),

"wherein each data node have (1) a value, and (2) a same relative position as every other data node" (see Jagadish et al., page 278, Fig. 7 wherein pattern implies what is described in Applicant's claim language),

"wherein the mask has an extending node at the same relative position as each of the data nodes" (see Jagadish et al., Fig. 3 and Fig. 5),

"wherein each of the plurality of the query trees comprises a query node at the same relative position as the data node and the extending node" (see Jagadish et al., [page 278, column 2, paragraph 4] wherein pattern trees is equivalent to Applicant's "query tree"),

"wherein, when the mask is applied to the second set of input data to generate the plurality of the query trees, the extending node propagates the values of each of the data nodes to each of the respective query nodes" (see Jagadish et al., [page 278, column 1, paragraph 4] and [page 280, column 2, paragraph 3] wherein pattern tree created from the input data of the query is equivalent to Applicant's "query tree"; also see [page 277, column 2, paragraph 5] for a tree operation which takes as input one or more sets of trees and produce as output a set of trees),

"wherein the query nodes each have a different value" (see Jagadish et al., page 278, Fig. 3 wherein each node in the pattern tree P has different value), and

"wherein the plurality of identified tree each comprise an identified node having the same relative position as each of the query nodes and having a same value of the query nodes" (see Jagadish et al., page 278, Fig. 3 and Fig. 5 wherein pattern tree P is equivalent to Applicant's "query tree" and witness trees is equivalent to Applicant's "identified tree").

As to claim 20, this claim is rejected based on arguments given above for rejected claim 11 and is similarly rejected including the following:

Jagadish et al. and Lindblad et al. teach:

"wherein the collection of tree data structures comprise heterogeneous data" (see Jagadish et al., Fig. 1 for collection of subtrees comprising heterogeneous data as illustrated in Applicant's claim language).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong-Thao Cao whose telephone number is (571) 272-2735. The examiner can normally be reached on 8:30 AM - 5:00 PM (Mon - Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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